

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 November 2004 (11.11.2004)

PCT

(10) International Publication Number  
**WO 2004/098016 A2**

(51) International Patent Classification<sup>7</sup>:

**H02J 1/00**

(21) International Application Number:

PCT/EP2004/004433

(22) International Filing Date: 27 April 2004 (27.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03388028.7

30 April 2003 (30.04.2003) EP

(71) Applicant (for all designated States except US): **BERNAFON AG [CH/CH]**; Morgenstrasse 131, CH-3018 Berne (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KAESLIN, Hubert** [CH/CH]; Zimikerried 28, CH-8603 Scherzenbach (CH). **FELBER, Norbert** [CH/CH]; Friedheimstrasse 23, CH-8057 Zürich (CH).

(74) Agent: **CHRISTENSEN, Mikael, T.**; Oticon A/S, Strandvejen 58, DK-2900 Hellerup (DK).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **LOW-VOLTAGE IC-CIRCUIT**

(57) **Abstract:** The invention regards an IC-circuit construction where the circuit is partitioned into power consuming sub-circuits (1,6) and where ground voltage level (VHH) in the power supply of a first sub-circuit (1) is used as the supply voltage level in a second sub-circuit (6). According to the invention a voltage control circuit (4) comprises a first buffer capacitor (10) coupled in parallel over the supply voltage level (VBB) and ground voltage level (VHH) of the first sub-circuit (1) and a second buffer capacitor (11) coupled in parallel over the supply voltage level (VHH) and the ground voltage level (GND) of the second sub-circuit (6), whereby means for maintaining a uniform voltage drop over the first (10) and the second (11) buffer capacitor comprises at least one bucket capacitor (20,21,22) which is alternately coupled in parallel over the first (10) and the second (11) buffer capacitor through a switching system controlled by a toggling signal.

**WO 2004/098016 A2**